

CLAIMS

What is claimed is:

- 1 1. A system for predicting semiconductor product costs at a fabricator
2 comprising:
3 a storage medium including a database of historical critical dimensions
4 and historical critical groundrules correlated to cost functions at said fabricator;
5 a user interface having user inputs for new design parameters and new
6 critical groundrules associated with a new device to be produced at said
7 fabricator; and
8 a computer adapted to receive said user inputs, extract data from said
9 storage medium perform a regression analysis on said data, and compute
10 semiconductor costs for said new device.
- 1 2. The system in claim 1, wherein said historical critical dimensions and said
2 new critical dimensions comprise gate dimensions.
- 1 3. The system in claim 1, wherein said new critical dimensions are smaller
2 than said historical critical dimensions.
- 1 4. The system in claim 1, wherein said new device comprises a future

1 technology generation.

2 5. The system in claim 4, wherein fabrication hardware and fabrication
3 methods for producing said future technology generation are unknown.

1 6. The system in claim 1, wherein said relationships comprise base models
2 and models that include options.

1 7. The system in claim 1, wherein said relationship comprise models that
2 illustrate that costs increase exponentially as said historical critical dimensions
3 and said historical critical groundrules are reduced.

1 8. A method of predicting semiconductor product costs comprising:
2 performing a regression analysis on historical costs of historical critical
3 dimensions at a fabricator, using said historical critical dimensions as independent
4 variables and said historical costs as dependent variables;
5 creating, in a database, models from said regression analysis showing a
6 relationship between said historical critical dimensions and said historical costs;
7 and
8 inputting new design parameters and new critical dimensions of a new
9 device into said database and predicting product costs of said new device based on
10 said models.

1 9. The method in claim 8, wherein said historical critical dimensions and said
2 new critical dimensions comprise gate dimensions.

1 10. The method in claim 8, wherein said new critical dimensions are smaller
2 than said historical critical dimensions.

1 11. The method in claim 8, wherein said new device comprises a future
2 technology generation.

1 12. The method in claim 11, wherein fabrication hardware and fabrication
2 methods for producing said future technology generation are unknown.

1 13. The method in claim 8, wherein said models include base models and
2 models that include options.

1 14. The method in claim 8, wherein said models illustrate that costs increase
2 exponentially as said historical critical dimensions and said historical groundrules
3 are reduced.

1 15. A system for predicting semiconductor product costs at a fabricator
2 comprising:

3 a regression analyzer adapted to determine relationships between historical
4 critical dimensions of historical technologies and costs of said historical
5 technologies;

6 a user interface for inputting a new critical dimension of a new technology;
7 and

8 a calculator for predicting a cost of said new technology based on said new
9 critical dimension and said relationships.

1 16. The system in claim 15, wherein said historical critical dimensions and
2 said new critical dimensions comprise gate dimensions.

1 17. The system in claim 15, wherein said new critical dimensions are smaller
2 than said historical critical dimensions.

1 18. The system in claim 15, further comprising a storage unit adapted to store
2 a database of said relationships.

1 19. The system in claim 15, wherein said new device comprises a future
2 technology generation.

1 20. The method in claim 19, wherein fabrication hardware and fabrication
2 methods for producing said future technology generation are unknown.

1 21. A program storage device readable by machine, tangibly embodying a
2 program of instructions executable by said machine for performing a method of
3 predicting semiconductor product costs, said method comprising:
4 performing a regression analysis on historical costs of historical critical
5 dimensions at a fabricator, using said historical critical dimensions as
6 independent variables and said historical costs as dependent variables;
7 creating, in a database, models from said regression analysis showing a
8 relationship between said historical critical dimensions and said historical costs;
9 and
10 inputting new design parameters and new critical dimensions of a new
11 device into said database and predicting product costs of said new device based on
12 said models.

1 22. The storage device in claim 21, wherein said historical critical dimensions
2 and said new critical dimensions comprise gate dimensions.

1 23. The storage device in claim 21, wherein said new critical dimensions are
2 smaller than said historical critical dimensions.

1 24. The storage device in claim 21, wherein said new device comprises a
2 future technology generation.

1 25. The storage device in claim 24, wherein fabrication hardware and
2 fabrication computer program products for producing said future technology
3 generation are unknown.

1 26. The storage device in claim 21, wherein said models include base models
2 and models that include options.

1 27. The storage device in claim 21, wherein said models illustrate that costs
2 increase exponentially as said historical critical dimensions and said historical
3 groundrules are reduced.